

## **ABSTRACT OF THE DISCLOSURE**

An apparatus and method for measuring and compensating for delay between a main base station and a remote base station interconnected by an optical cable. The main base station inserts a test pattern into an overhead part of an SDH frame to transmit the SDH frame to the remote base station, receives the SDH frame looped back by the remote base station to detect the test pattern, and measures propagation delay according to the test pattern. At least one frame alignment word (FAW) is detected at a predetermined position in the received SDH frame, and a delay error is calculated according to FAW detection information. The measured propagation delay with the delay error is compensated and produces propagation delay caused by the optical cable. A modulator/demodulator (MODEM) compensates for delay of a baseband signal to be transmitted to the remote base station.